

**REMARKS**

Applicant respectfully requests reconsideration and allowance of the subject application in view of the foregoing amendments and the following remarks.

Claims 1-17, 56-61, and 70 are pending in the application, with claims 1, 56, and 70 being independent. Claims 1, 56, and 70 are amended herein. Support for the claim amendments can be found in the original disclosure as filed, at least a page 8, lines 16-18, page 13, lines 11 and 12, and page 30, line 10 through page 31, line 14. No new matter has been added.

**STATEMENT OF SUBSTANCE OF INTERVIEW**

Initially, Applicant wishes to thank the Examiner for conducting telephonic interviews with Applicant's attorney, David A. Divine, on November 3, 2005 and November 7, 2005.

During the interviews, the rejection under § 112, first paragraph was discussed. Without conceding the propriety of the rejection, Applicant's attorney proposed to amend independent claims 1, 56, and 70 to delete the allegedly unsupported subject matter. The Examiner agreed that this would overcome the § 112 rejection of the claims.

Also during the interview, Applicant's attorney presented arguments against the § 102 rejection of independent claims 1, 56, and 70, based on the cited Alattar et al. publication. The Examiner took the position that the claimed features are met by Alattar et al. Without conceding the propriety of the rejection, and in the interest of expediting prosecution, several draft claim amendments were discussed. However, agreement was not reached during the interview.

**§112 REJECTION**

Claims 1, 56, and 70 were rejected under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the written description requirement. This rejection is respectfully traversed. Nevertheless, without conceding the propriety of the rejection, independent claims 1, 56, and 70 have been amended to delete the allegedly unsupported subject matter, as discussed during the interview. Applicant submits that the claims comply with all aspects of § 112.

**§102 REJECTION**

Claims 1-11, 13-17, 56-61, and 70 were rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent Application Publication No. 2002/0009208 A1 (Alattar et al.). This rejection is respectfully traversed. Nevertheless, without conceding the propriety of the rejection, independent claims 1, 56, and 70 have been amended to even more clearly recite features of Applicant's invention.

Independent claim 1 as presently presented recites, among other things, generating a fingerprint, the fingerprint being an identifier which is associated with a unique entity and the fingerprint being generated at least in part from the watermark, and embedding the watermark into a digital good without embedding the fingerprint, such that the watermarked digital good is free from information associated with the entity.

Alattar et al. has not been shown to disclose or suggest such features.

Alattar et al. is directed to authentication of physical and electronic media objects using digital watermarks, and describes at paragraph [0062] that "[t]he watermark embedding process 106 converts the message to a watermark information signal. It then combines this signal with

the input signal and possibly another signal (e.g., an orientation pattern) to create a watermarked signal 108.”

Further, in paragraphs [0073] through [0076], Allatar et al. describes that:

[T]he [watermark] message [200], its carrier [208], and the mapping [210] of the watermark to the host signal may be encrypted with an encryption key 202. In addition to the information conveyed in the message, the embedder may also add control bit values ("signature bits") to the message to assist in verifying the accuracy of a read operation. These control bits, along with the bits representing the message, are input to an error correction coding process 204 designed to increase the likelihood that the message can be recovered accurately in the reader.

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[0076] The error correction coding function 204 produces a string of bits, termed raw bits 206, that are embedded into a watermark information signal. Using a carrier signal 208 and an assignment map 210, the illustrated embedder encodes the raw bits in a watermark information signal 212, 214.

Also, as described in paragraph [0082], “a secret key may be used to generate the carrier signal.”

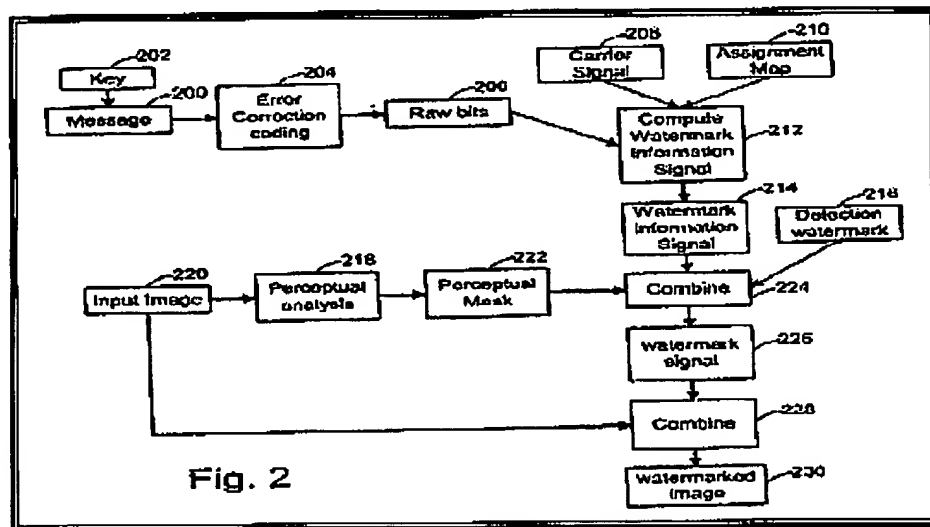
However, Alattar et al. has not been shown to disclose or suggest at least the features of (1) “generating a fingerprint, the fingerprint being an identifier which is associated with a unique entity and the fingerprint being generated at least in part from the watermark,” and (2) “embedding the watermark into a digital good without embedding the fingerprint, such that the watermarked digital good is free from information associated with the entity,” as presently recited in independent claim 1.

(1) Alattar et al. has not been shown to disclose or suggest “generating a fingerprint, the fingerprint being an identifier which is associated with a unique entity and the fingerprint being generated at least in part from the watermark.” The Office Action asserts on page 4 that:

Alattar et al. discloses a digital watermarking method wherein the watermarking message is combined in one of a variety of ways (Page 6, [0082]) with a random carrier signal to create a key for the embedding of the watermark message into the host signal (Page 6, [0077]-[0082]), which meets the limitation of generating a fingerprint, the fingerprint being associated with a watermark, producing a pseudorandom watermark carrier that is independent of the watermark, combining or amalgamating the carrier and the watermark to generate the fingerprint.

In making this assertion, the Office Action appears to be equating the watermark key 202 and/or the carrier signal 208 with Applicant’s claimed “fingerprint.” Applicant respectfully disagrees with this assertion. In particular, Alattar et al. does not disclose or suggest that the fingerprint is generated by combining or amalgamating the carrier and the watermark to generate the fingerprint. Likewise, Alattar et al. does not suggest using a fingerprint that is generated at least in part from the watermark. Rather, Alattar et al. discloses in paragraph [0076] that “[u]sing a carrier signal 208 [which may have been generated using a secret key (see paragraph [0082])] and an assignment map 210, the illustrated embedder encodes the raw bits in a watermark information signal 212, 214.” Thus, the watermark of Alattar et al. is generated using a carrier signal 208 and possibly a secret key. This is not the same as “the fingerprint being generated at least in part from the watermark,” as presently recited in independent claim 1.

This difference is highlighted by FIG. 2 of Alattar et al. (reproduced below), in which the key 202, carrier 208, and assignment map 210 are all clearly used in the generation of the watermark information signal 214.



Accordingly, Alattar et al. has not been shown to disclose or suggest “generating a fingerprint, the fingerprint being an identifier which is associated with a unique entity and the fingerprint being generated at least in part from the watermark,” as presently recited in independent claim 1.

(2) Alattar et al. also does not disclose or suggest “embedding the watermark into a digital good without embedding the fingerprint, such that the watermarked digital good is free from information associated with the entity,” as presently recited in independent claim 1.

Alattar et al. discloses that “[t]he watermark key may be dependent on some attribute or attributes of the media signal in which the watermark is to be embedded, such as the pixel values of an image or the audio sample values of an audio signal,” or “may be dependent on some

attribute that is uniquely assigned to the object [such as] an identifier that is uniquely associated with the owner or user of the object, such as the owner of a watermarked identification card."

During the interview, the Examiner took the position that the first example, in which the watermark key is dependent of an attribute of the media signal, suggests inserting a watermark that is "free from information associated with the entity," as presently recited in independent claim 1. Applicant respectfully disagrees.

Simply because a watermark is "dependent on some attribute or attributes of the media signal," does not mean that the watermark is free from information associated with an entity. For example, in the example of inserting a watermark in picture identification image described in Alattar et al., if the watermark key is dependent on pixel values of the image (i.e., the picture ID), the watermark would still be associated with an entity (i.e., the person pictured in the ID).

In addition, the Office Action appears to be combining alternative embodiments of Alattar et al. in an inconsistent manner. Independent claim 1 recites that the fingerprint is "an identifier which is associated with a unique entity." The Office Action appears to be relying on the watermark key 202 of Alattar et al. as disclosing this feature. Alattar et al. discloses in the Abstract that "the watermark key [may be] dependent on a user or an attribute of a user." However, as discussed above, the watermark key 202 is used in the generation of the watermark of Alattar et al. Thus, in those embodiments of Alattar et al. in which a user-dependent watermark key are used, the resulting watermark would also include information associated with the user. Accordingly, Alattar et al. has not been shown to disclose or suggest an embodiment that includes both "generating a fingerprint ... which is associated with a unique entity" and "embedding the watermark into a digital good ..., such that the watermarked digital good is free from information associated with the entity."

For at least the foregoing reasons, independent claim 1 is allowable over Alattar et al.

**Independent claims 56 and 70** are directed to a system and to a computer-readable medium, respectively, and each is allowable for reasons similar to those discussed above with respect to independent claim 1, as well as for the additional features that it recites.

**Dependent claims 2-11, 13-17, and 57-61** depend from one of independent claims 1 and 56, and each is allowable by virtue of its dependence from the respective base claim, as well as for the additional features that it recites.

In particular, **dependent claim 3** recites that generating a fingerprint comprises “producing a pseudorandom watermark carrier that is independent of the watermark; combining the carrier and the watermark to generate the fingerprint.” As discussed above, Alattar et al. has not been shown to disclose or suggest a fingerprint that is “generated at least in part from the watermark,” as recited in claim 1. Thus, Alattar et al. cannot be said to disclose “combining the carrier and the watermark to generate the fingerprint.” Also, the carrier 208 of Alattar et al. cannot be said to be independent of the watermark, since the carrier 208 is used to generate the watermark signal 214, as shown in FIG. 2 of Alattar et al. Thus, claim 3 is allowable for at least these additional reasons.

**Dependent claim 4** recites “producing a pseudorandom watermark carrier that is independent of the watermark; amalgamating the carrier and the watermark to generate the fingerprint.” For reasons similar to those discussed with respect to dependent claim 3, Alattar et al. has not been shown to disclose or suggest such features.

**Dependent claim 15** recites that “the signal has a minimum collusion resistance that grows with the scale (N) of the signal in the order of magnitude of  $O(N \log N)$ .” The Office Action asserts that this feature is taught by Alattar et al., but does not provide a citation to any

portion of that document. A review of the document reveals that Alattar et al. discloses at paragraphs [0176] and [0178] performing a statistical analysis by a watermark detector as follows:

[0176] The statistical analysis may also include a maximum likelihood analysis. In such an analysis, an off-line detector generates detection value statistics for both marked and unmarked images. Based on the probability distributions of marked and unmarked images, it determines the likelihood that a given detection value for an input image originates from a marked and unmarked image.

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Finally, it quantizes this probability measure for each pair of peaks (1008) by computing the log (base 10) of the ratio of the total area over the area encompassing the two peaks. At this point, the detector has calculated two detection values: quantized peak value, and the quantized distance metric.

However, this statistical analysis does not disclose or suggest that "the signal has a minimum collusion resistance that grows with the scale (N) of the signal in the order of magnitude of  $O(N \log N)$ ." Rather, it merely "determines the likelihood that a given detection value for an input image originates from a marked and unmarked image." Thus, claim 15 is allowable for at least this additional reason.

**Claim 12 was rejected under 35 U.S.C. §103 as being obvious over Alattar et al. in view of U.S. Patent No. 6,243,480 B1 (Zhao et al.).** This rejection is respectfully traversed.

Claim 12 depends from independent claim 1 and, therefore, includes all the features of that claim.

As discussed above, Alattar et al. has not been shown to disclose or suggest "generating a fingerprint, the fingerprint being an identifier which is associated with a unique entity and the



fingerprint being generated at least in part from the watermark," and "embedding the watermark into a digital good without embedding the fingerprint, such that the watermarked digital good is free from information associated with the entity," as presently recited in independent claim 1.

Zhao et al. was cited for its alleged teaching of "a digital authentication system wherein when a user requests access to a digital document that user's identification is associated with the watermark embedded into the digital document distributed to the user." However, Zhao et al. has not been shown to remedy the deficiencies in Alattar et al. noted above with respect to independent claim 1.

Accordingly, claim 12 is allowable by virtue of its dependence from independent claim 1, as well as for the additional features that it recites.

### CONCLUSION

For at least the foregoing reasons, claims 1-17, 56-61, and 70 are in condition for allowance. Applicant respectfully requests reconsideration and withdrawal of the rejections and an early notice of allowance.

If there are any issues that would prevent allowance of this case, the Examiner is requested to contact the undersigned attorney to resolve them.

Respectfully Submitted,

Date: \_\_\_\_\_

By: \_\_\_\_\_

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